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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/832,715	04/11/2001	Eivind Stenersen	758.1212US01	9748

7590 06/13/2003

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EXAMINER

BELL, BRUCE F

ART UNIT PAPER NUMBER

1746

DATE MAILED: 06/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/832,715

Applicant(s)  
Stnensen et al

Examiner  
Bell

Art Unit  
1746



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2-6 6) ☐ Other:

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***Claim Rejections - 35 USC § 102/103***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Or***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 7-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gillingham et al (5792247).

Gillingham et al disclose an integral filter and resonator apparatus which includes filter elements positioned upstream of a Helmholtz resonator within one housing for the purpose of reducing the chamber size. See abstract and col. 1, lines 28-44. The integrated filter and resonator are designed in a parallel fluid flow sequence and the filter elements can be of a spiral design. Air enters the device 60 at inlet 64 and flows into the filter elements 62 and exit at a reduced outlet 66. A housing 68 retains the filter elements 62 in a side by side arrangement and a coaxial

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Helmholtz resonator tube 70 mounts intermediate and offset from the filter elements 62 and substantially aligned with the outlet 66. See col. 4, line 59 - col. 5, line 19. The resonator structure provide for noise reduction over a wide frequency range and the air filter elements may be configured so that particular frequencies over the wide range may be precisely tuned. See col. 6, lines 61-65. A graph of the noise attenuation in decibels over a range of frequencies attributed to the resonator structure are shown in Figure 22. Tuning of the resonator structure to match certain wavelengths for noise at corresponding frequencies enables the overall noise reduction of sound in the filter assembly. See col. 7, lines 55-65.

The prior art of Gillingham et al anticipates the applicants instant invention as set forth because the patent discusses how to fine tune the system to give the best noise reduction and even though it does not disclose that the attenuation be at least 6 DB, one having ordinary skill in the art would know that a device made as set forth in the device of Gillingham et al would have such an attenuation to finely tune the filter assembly to work properly to reduce the noise level within the assembly.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gillingham et al (5792247) in combination with Dallas et al (6432177) and Ramos et al (6179890) .

Gillingham et al is as disclosed above in the 35 USC 102/103 rejection.

Gillingham et al does not disclose the specific decibel level, the filter element composition or shape or the use of such device in a fuel cell.

Dallas et al disclose an air filter assembly for removing particulate contaminants, chemical contaminants or both from incoming dirty air streams. An assembly of this type is shown to be used in catalytic equipment such as fuel cells. See abstract. The patent further disclose that adsorbent materials are utilized for the removal of contaminants and that the contaminants can be acid or basic in nature and the adsorbent utilized will be either strongly acidic or basic materials. See col. 6, lines 43-67.

Ramos et al disclose an air cleaner assembly having a filter construction 712 and a resonator 706 integral therewith to reduce the sound pressure level exiting the system in which the air cleaner is installed. See col. 2, lines 31-43. The resonator constructed within the housing is designed to reduce the sound pressure levels by at least 1 DB and typically between 1.5 and 3 DB and is dependent upon the housing design. See col. 7, lines 52-61.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Gillingham et

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al does not specifically disclose the sound attenuation range as set forth by the applicants instant claims, it is disclosed that the arrangement of the filter assembly will determine the sound attenuation level as is set forth in both Gillingham et al and in Ramos et al where Ramos et al sites what those levels should be. Further, even though the prior art of Gillingham et al does not disclose the use of a filter assembly to remove chemical contaminants, the prior art of Dallas et al shows that it is known in filter assemblies to include both types of filters for the purpose of removing both particulate and chemical contaminants for better purification of the air to be used in various devices such as fuel cells and engines. Basic and Acidic adsorbent materials which may be used in the chemical filter are also set forth in Dallas et al and are within the ordinary skill in the art. Therefore, the prior art of Gillingham et al in combination with Ramos et al and Dallas et al render the applicants instant invention as obvious for the reasons set forth above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce Bell whose telephone number is 703-308-2527. The examiner can normally be reached on Monday through Friday from 6:30 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski , can be reached on (703) 308-4333. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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BFB

June 11, 2003

BRUCE F. BELL  
PRIMARY EXAMINER  
GROUP 1100